

State of California  
AIR RESOURCES BOARD

EXECUTIVE ORDER D-537-1

Relating to Exemptions Under Section 27156  
of the California Vehicle Code

Group-A Autosports  
Skunk2 Racing VTEC Camshaft

Pursuant to the authority vested in the Air Resources Board by Section 27156 of the Vehicle Code; and

Pursuant to the authority vested in the undersigned by Section 39515 and Section 39516 of the Health and Safety Code and Executive Order G-02-003;

IT IS ORDERED AND RESOLVED: That the installation of the Skunk2 Racing VTEC Camshaft, produced and marketed by Group-A Autosports, 25710 Industrial Blvd. # 2, Hayward, California 94545, has been found not to reduce the effectiveness of the applicable vehicle pollution control systems and, therefore, is exempt from the prohibitions of Section 27156 of the Vehicle Code for the 1994 to 2001 Honda Prelude VTEC vehicles (p/n 305-05-0200).

The Skunk2 Racing VTEC Camshaft is manufactured with different opening crankshaft angles, duration, and lift of intake and exhaust valves from those of the stock camshaft. The manufacturer, Group-A Autosports, recommends an ignition timing setting of 16-17 degrees before top dead center.

This Executive Order is valid provided that the installation instructions for the Skunk2 Racing VTEC Camshaft will not recommend tuning the vehicle to specifications different from those of the vehicle manufacturer, except the ignition timing setting mentioned above.

Changes made to the design or operating conditions of the Skunk2 Racing VTEC Camshaft, as exempt by the Air Resources Board, which adversely affect the performance of the vehicle's pollution control system shall invalidate this Executive Order.

This Executive Order shall not apply to any Skunk2 Racing VTEC Camshaft advertised, offered for sale, sold with, or installed on a new motor vehicle prior to or concurrent with transfer to an ultimate purchaser.

Marketing of the Skunk2 Racing VTEC Camshaft using any identification other than that shown in this Executive Order or marketing of the Skunk2 Racing VTEC Camshaft for an application other than those listed in this Executive Order shall be prohibited unless prior approval is obtained from the Air Resources Board.

This Executive Order does not constitute any opinion as to the effect the use of the Skunk2 Racing VTEC Camshaft may have on any warranty either expressed or implied by the vehicle manufacturer.

This Executive Order is issued based on an engineering evaluation of previously submitted emission test results on a 2000 Honda Civic Si with the Skunk2 Racing VTEC Camshaft installed (Executive Order D-537). Test results showed no adverse impact on emissions or on the vehicle's ability to perform On-Board Diagnostic II (OBD II) system monitoring. The 2000 Honda Civic Si is certified to more stringent emission standards than the 1994 to 2001 Honda Prelude VTEC vehicles and the camshafts for both models are similar in design and construction. Therefore, as with the 2000 Honda Civic Si, no adverse impact on emissions is expected from the installation of the Skunk2 Racing VTEC Camshaft on the 1994 to 2001 Honda Prelude VTEC vehicles.

However, the ARB finds that reasonable grounds exist to believe that use of the Skunk2 Racing VTEC Camshaft may adversely affect emissions of motor vehicles when operating under conditions outside the parameters of the CVS-75 Federal Test Procedure. Accordingly, the ARB reserves the right to conduct additional emission tests, in the future, as such tests are developed, that will more adequately measure emissions from all cycle phases. If such test results demonstrate that the Skunk2 Racing VTEC Camshaft adversely affect emissions during off-cycle conditions (defined as those conditions which are beyond the parameters of the Cold-Start CVS-75 Federal Test Procedure), this Executive Order shall be effectively rescinded as of the date the test results are validated. Further, if such test results or other evidence provides the ARB with reason to suspect that the Skunk2 Racing VTEC Camshaft will affect the durability of emission control systems, Group-A Autosports shall be required to submit durability data to show that the durability of vehicle emission control systems are not, in fact, affected and/or that the add-on or modified part demonstrates adequate durability.

The ARB reserves the right in the future to review this Executive Order and the exemption provided herein to assure that the exempted add-on or modified part continues to meet the standards and procedures of Title 13, California Code of Regulations, Section 2222, et seq.

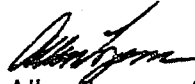
THIS EXECUTIVE ORDER DOES NOT CONSTITUTE A CERTIFICATION, ACCREDITATION, APPROVAL, OR ANY OTHER TYPE OF ENDORSEMENT BY THE AIR RESOURCES BOARD OF ANY CLAIMS OF THE APPLICANT CONCERNING ANTI-POLLUTION BENEFITS OR ANY ALLEGED BENEFITS OF GROUP-A AUTOSPORTS' SKUNK2 RACING VTEC CAMSHAFT.

No claim of any kind, such as "Approved by the Air Resources Board", may be made with respect to the action taken herein in any advertising or other oral or written communication.

Violation of any of the above conditions shall be grounds for revocation of this order. The order may be revoked only after a ten-day written notice of intention to revoke the order, in which period the holder of the order may request in writing a hearing to contest the proposed revocation. If a hearing is requested, it shall be held within ten days of

receipt of the request and the order may not be revoked until a determination is made after the hearing that grounds for revocation exist.

Executed at El Monte, California, this 12<sup>TH</sup> day of June, 2002.



Allen Lyons, Chief  
Mobile Source Operations Division

## EVALUATION SUMMARY

Manufacturer Name: Group-A Autosports

Name of Device: Skunk2 Racing VTEC Camshaft

Background:

Group-A Autosports of 25710 Industrial Blvd. # 2, Hayward, California 94545, has applied for an exemption from the prohibitions in Section 27156 of the California Vehicle Code (VC) for the Skunk2 Racing VTEC Camshaft designed for the 1994 to 2001 Honda Prelude VTEC vehicles (p/n 305-05-0200).

Recommendation:

Grant exemption to Group-A Autosports as requested, and issue Executive Order D-537-1.

Device Description:

Group-A Autosports' Skunk2 Racing VTEC Camshaft is specifically designed for installation on the 1994 to 2001 Honda Prelude VTEC vehicles. The installation of the camshaft does not require any major modifications to the stock motor. Group-A Autosports recommends an ignition timing setting of 16-17 degrees before top dead center which is a smaller range than recommended by the Original Equipment Manufacturer, but within the range of stock settings.

The Skunk2 Racing VTEC Camshaft is intended to increase the vehicle's power output. The induction flow into and exhaust from the engine are increased because the Skunk2 Racing VTEC Camshaft is manufactured with different opening crankshaft angles, duration, and lift of intake and exhaust valves than the stock camshaft. This allows better induction of the intake charge into the engine, resulting in a higher power output. However, the aggressive intake charge induction can have an adverse effect on emissions if the scavenging of the exhaust gases causes excessive portions of the intake charge to be drawn from the combustion chamber before combustion. Also, potential fuel economy penalties could be experienced.

Discussion/Basis for the Recommendation:

Group-A Autosports previously obtained a VC 27156 exemption for the Skunk2 Racing VTEC Camshaft for selected 1992 to 2001 model year Honda and Acura vehicles under Executive Order No. D-537. This exemption was issued based on test results generated from a 2000 Honda Civic with the Skunk2 Racing VTEC Camshaft installed which showed no adverse impact on emissions or on the vehicle's ability to perform on-board diagnostic II (OBD II) system monitoring. The 2000 Honda Civic is certified to more stringent emission standards than the 1994 to 2001 Honda Prelude VTEC vehicles, and the camshaft design and construction are similar for both models. Therefore, no emission testing or examination of the OBD II system was required for the 1994 to 2001 Honda Prelude VTEC vehicles since these vehicles are expected to have the same effect on emissions and OBD II system monitoring as the 2000 Honda Civic Si.

The staff concludes that Group-A Autosports' Skunk2 Racing VTEC Camshaft meets the requirements for a VC 27156 exemption for the 1994 to 2001 Honda Prelude VTEC vehicles (p/n 305-05-0200).